

# **Data Management 2.0: Making Sense of Unstructured Data**

July 2007

## Executive Summary

Better business decisions are made when more actionable information is available. The challenge organizations face today is that they don't consistently leverage (and may not have access to) information that falls outside their well-established information sources. Best-in-Class organizations are leveraging a union of unstructured and structured information to introduce new insights that improve employee productivity and customer insight while reducing risk. This report is a roadmap for evaluating the strategies and technologies that Best-in-Class organizations are using to achieve higher performance.

### Best-in-Class Performance

Aberdeen used four key performance criteria to distinguish Best-in-Class organizations. Best-in-Class organizations showed significant improvements in all four areas over the previous two years:

- 94% reported improvement in response time to customer demands.
- 84% reported improvement in time spent searching for knowledge objects (employee productivity).
- 82% reported improvement in the ability to reduce risk by preventing harmful events before they occur.
- 80% reported improvement in customer insight ("view of the customer").

### Competitive Maturity Assessment

Survey results show that the organizations enjoying Best-in-Class performance shared several common characteristics with respect to their efforts to bring structure to unstructured data:

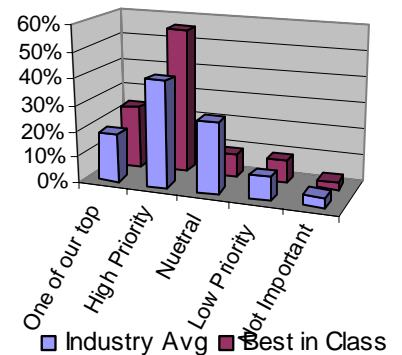
- **54% of Best-in-Class organizations have had a well-defined data management strategy** in place. This is nearly twice the rate of Industry Average organizations (30%) and Laggards (23%).
- **Best-in-Class organizations (48%) are far more likely to link their Business Intelligence (BI) initiatives to their overall business strategy** than Industry Average companies (31%) and Laggards (10%).
- **Best-in-Class organizations (42%) have a BI Center of Excellence in place** at more than three times the rate of Industry Average and Laggards (13% each).

### Required Actions

In addition to the specific recommendations in Chapter 3 of this report, to achieve Best-in-Class performance, organizations must:

- Clearly define data at its source
- Seek executive sponsorship for BI initiatives
- Have well defined data management, enterprise search and content management strategies in place.

Level of Priority assigned to providing structure to unstructured data:



Source: Aberdeen Group, June 2007



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## Chapter One: Benchmarking the Best-in-Class

### Aberdeen Analysis

Helping individuals bring business strategy to life by making better decisions and managing performance is common sense approach. To this end, Best-in-Class organizations seek to leverage the rapidly growing unstructured data sources that are often trapped in various systems throughout their organization. The top two pressures driving this initiative are the desire to increase employee productivity (47%) and the need to reduce risk by preventing harmful events from impacting the enterprise before they happen (26%).

### Maturity Class Framework

Aberdeen used four key performance criteria to distinguish Best-in-Class companies from Industry Average and Laggard organizations.

#### Fast Facts

- ✓ **54%** of Best-in-Class organizations have a well defined data management strategy in place.
- ✓ **45%** of Best-in-Class organizations site the need to improve employee productivity as a primary driver for bringing structure to unstructured data.

**Table 1: Companies With Top Performance Earn “Best-in-Class” Status:**

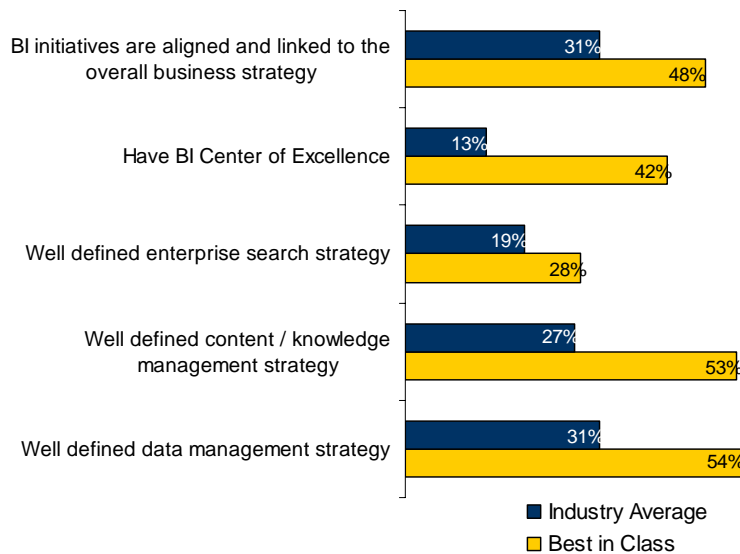
Definition of Maturity Class	Mean Class Performance
<b>Best-in-Class:</b> Top 20% of aggregate performance scorers	<ul style="list-style-type: none"> <li><b>94%</b> reported greater than 10% improvement in response time to customer demands.</li> <li><b>68%</b> reported greater than 10% improvement in time spent searching for knowledge objects (employee productivity).</li> <li><b>66%</b> reported greater than 10% improvement in the ability to reduce risk by preventing harmful events before they occur.</li> <li><b>65%</b> reported greater than 10% improvement in customer insight (“view of the customer”).</li> </ul>
<b>Industry Average:</b> Middle 50% of aggregate performance scorers	<ul style="list-style-type: none"> <li><b>13%</b> reported greater than 10% improvement in response time to customer demands.</li> <li><b>4%</b> reported greater than 10% improvement in time spent searching for knowledge objects (employee productivity).</li> <li><b>6%</b> reported greater than 10% improvement in the ability to reduce risk by preventing harmful events before they occur.</li> <li><b>31%</b> reported greater than 10% improvement in customer insight (“view of the customer”).</li> </ul>
<b>Laggard:</b> Bottom 30% of aggregate performance scorers	<ul style="list-style-type: none"> <li><b>0%</b> reported greater than 10% improvement in time spent searching for knowledge objects (employee productivity).</li> <li><b>0%</b> reported greater than 10% improvement in response time to customer demands.</li> <li><b>0%</b> reported greater than 10% improvement in the ability to reduce risk by preventing harmful events before they occur.</li> <li><b>0%</b> reported greater than 10% improvement in customer insight (“view of the customer”).</li> </ul>

Source: Aberdeen Group, June 2007

While organizations have become proficient at exploiting structured data, they are not as successful at finding intelligence in unstructured formats. Unstructured information is considered by many to represent over 85% of an organization’s data, and yet it remains untapped by conventional BI approaches such as query and reporting tools. It can include text analytics and federated search of web logs, word documents, emails, customer surveys and feedback, field service notes and other data not contained in a structured database or application table.

So, what are the essential tactics of a well-designed unstructured data strategy that bring together BI, Search and Text Analytics? Organizations should avoid piecemeal approaches to unstructured data. Strategy and internal support is important. The Best-in-Class are more than three times as likely as the Industry Average to have a BI “Center of Excellence” (or BI Competency Center) in place. In addition, they are more likely to link and align BI initiatives to business strategies as well as deploy well defined data management, content management and enterprise search strategies.

**Figure 1: Strategies and Support in Place**

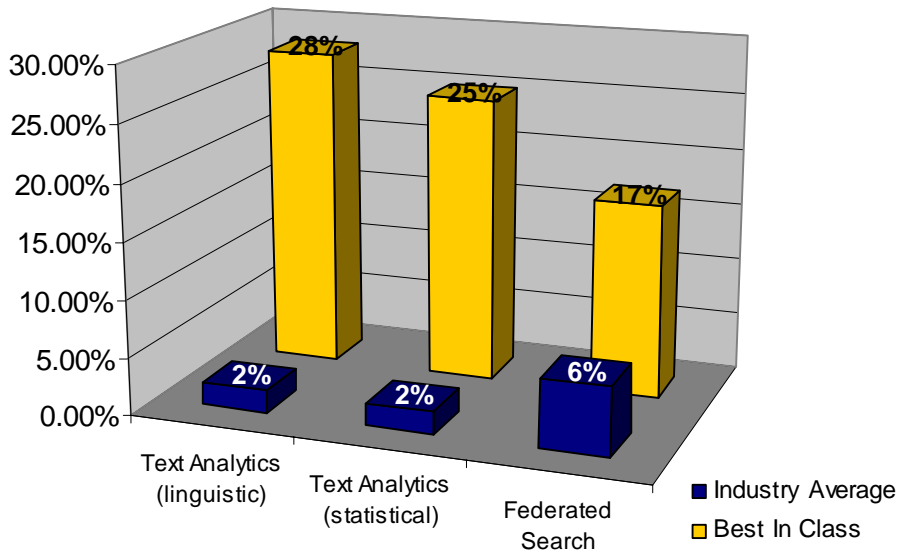


Source: Aberdeen Group, June 2007

Bringing together BI, Search and Text Analytics takes time. The Best-in-Class show as much more likely to have had the technology in place for two or more years (Figure 2). These organizations have taken this journey in steps and as a result have more experience with the technology.

**Figure 2: The BIC Have Adopted Early**

*Solutions your organization has been using for two years or more*



Source: Aberdeen Group, June 2007

The Best-in-Class are also aggressively exploring future sources from which they can pull unstructured data. Web 2.0 sources, such as web logs, RSS feeds and wiki pages, are major areas under investigation with 52% of the Best in Class currently evaluating or planning to evaluate these sources.

#### Aberdeen Insights – Part 1

While **80% of the Best-in-Class** reported providing structure to unstructured data as a high or top priority, this does not necessarily mean they have budgeted for the investment. The [2007 Aberdeen Report](#) indicates that Business Intelligence solutions (netting 37%) will be one of the top technology investments made to support service organizations this year. Focus on BI related applications is also a top goal driving sales and marketing organizations. Data Management Solutions and Reporting & Analytics solutions netted 36% and 52% respectively.

## Best-in-Class PACE Model

Leveraging unstructured information to achieve business goals requires a combination of strategic actions, organizational capabilities and enabling technologies that can be summarized as follows:

**Table 2: Best-in-Class PACE Framework**

Pressures	Actions	Capabilities	Enablers
<ul style="list-style-type: none"> <li>• Employee Productivity</li> <li>• The Need to Manage Risk</li> <li>• Improve Customer Service</li> <li>• Address Regulatory Issues</li> <li>• Expand Use of BI in the Enterprise</li> </ul>	<ul style="list-style-type: none"> <li>• Clearly Defining Data at its Source</li> <li>• Linking BI Initiatives to Overall Business Objectives</li> <li>• Undertaking Pilot Projects Pertaining to Unstructured Data</li> <li>• Seeking Executive Sponsorship for BI Initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• Well Defined Data Management Strategy</li> <li>• Well Defined Content/Knowledge Management Strategy</li> <li>• BI initiatives are aligned and linked to overall business strategy</li> <li>• BI Center of Excellence to Facilitate Larger BI User Population</li> <li>• Performance Monitored through Key Performance Indicators</li> </ul>	<ul style="list-style-type: none"> <li>• Data Cleansing</li> <li>• Categorization (rules based)</li> <li>• Query &amp; Reporting Tools</li> <li>• Visualization Tools (dashboards, heat maps, etc)</li> <li>• Traditional Search</li> <li>• Data Mining</li> <li>• Content Mgmt System</li> <li>• Enterprise Data Warehouse</li> <li>• Real-Time Data Loading and Accessibility</li> <li>• Master Data Management</li> <li>• Text Analytics-linguistic approach</li> <li>• Text Analytics-key word search</li> </ul>

### Fast Facts

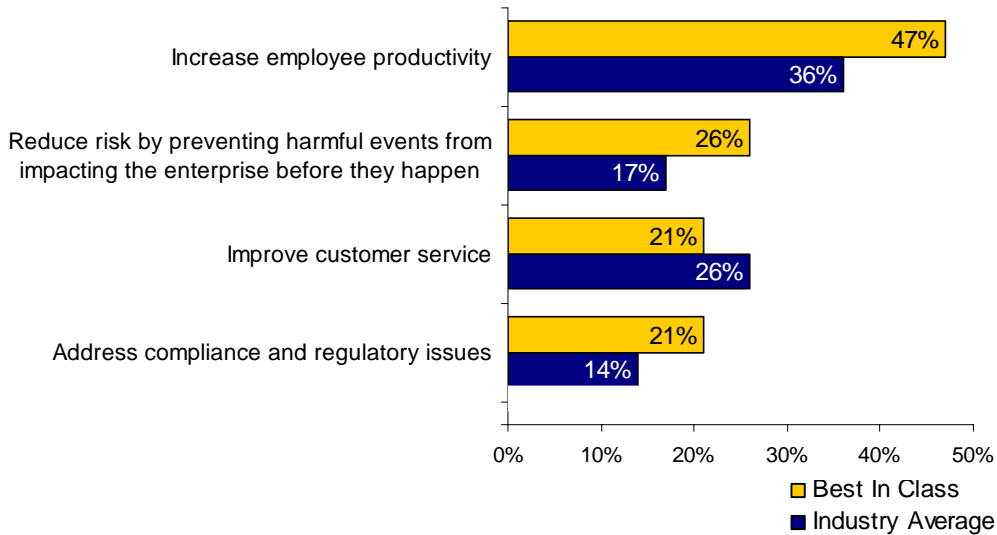
√ The Best-in-Class list “**clearly defining data at its source**” as the **#1 strategy** they have taken toward providing structure to unstructured data.

Source: Aberdeen Group, June 2007

Aberdeen found that the top pressure motivating Best-in-Class organizations to focus resources on unstructured data was the need to increase productivity (47%) followed by the need to manage risk (26%). While Industry Average companies also recognize the value of bringing structure to unstructured information to improve employee productivity (36%), they have not been as quick to consider risk reduction (17%) as a primary driver.

**Figure 3: Pressures driving the Best-in-Class to focus on unstructured data**

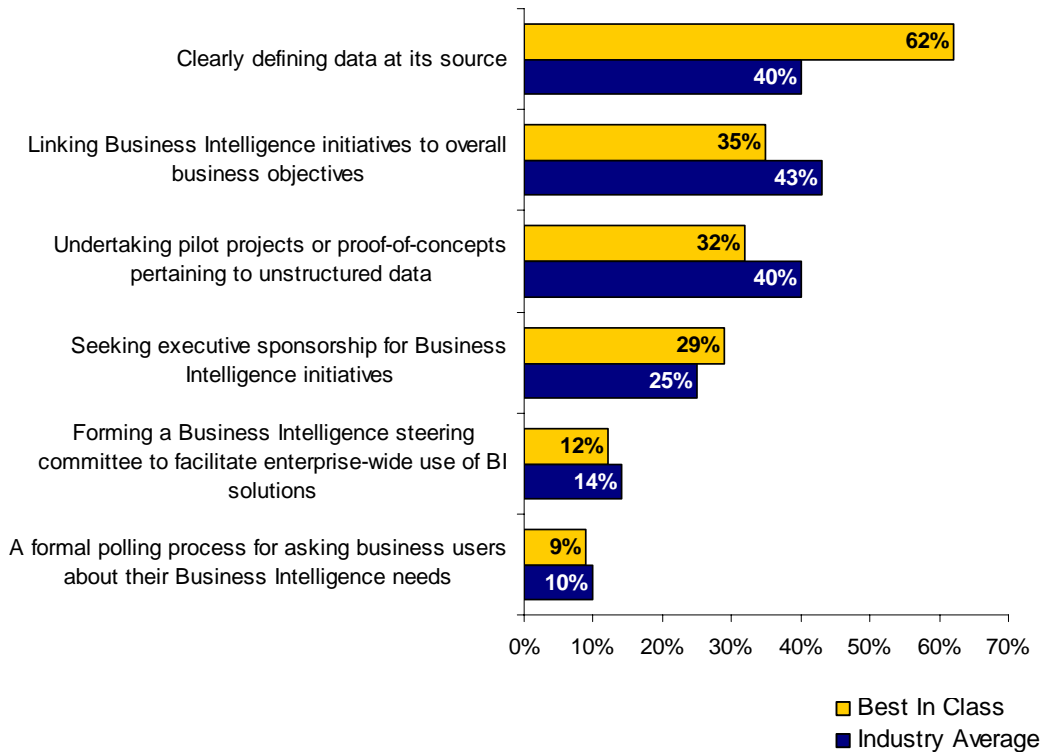
*Increasing employee productivity is a priority for the Best-In-Class*



Source: Aberdeen Group, June 2007

**Figure 4: Strategic actions that Best-in-Class prioritize**

Best-in-Class companies prioritize “defining data at its source” as the top strategic action in response to the pressures identified above.



Source: Aberdeen Group, June 2007

The ability to manage data definitions is linked directly to risk reduction and employee performance. The time required to search for actionable information amid vast amounts of data creates a drag on employee productivity. When data definitions are not clearly defined, users of information are forced to spend time and effort on validating if the data they are looking at is correct. Moreover, users of information can inadvertently make incorrect decisions and pass along invalid data. This can actually be the cause of risk in the form of harmful events that organizations are trying to reduce and eliminate. To compensate, a “one version of the truth” initiative can be possible by clearly defining data at the source or staging level.

## Chapter Two: Benchmarking Requirements for Success

The ability to impact business performance in new ways is largely dependant on the availability of new insight from untapped information sources (unstructured data). The integration of traditional business intelligence solutions with technologies focused on unstructured data is both appealing and challenging. The goal is to provide unified access to both structured (database) and unstructured information in an easy-to-use interface.

Ideally?.....The business user should have access to data within one search interface that integrates reports, analysis, dashboards and other information from typical BI solutions, along with e-mail, documents as well as other forms (and sources) of unstructured information. To successfully accomplish this, organizations need well defined strategies and support in place.

### Fast Facts

- √ Best-in-Class organizations are **3 times as likely** as the Industry Average to have a BI Center of Excellence in place.
- √ Best-in-Class organizations are **2 times as likely** as the Industry Average to have well defined content / knowledge management strategies in place.

### Case Study: A brief interview with a Fortune 50 CPG company

**Question:** What are key success factors for evaluating the use of unstructured data?

**Answer:** The ultimate marker of success is that your employees will be making decisions in new ways that have added business impact. So, it's important to be polling your business users about their needs in this area. The savvy executive is already combining information; they are reading on blogs and notes, etc. with information available in their BI systems ... even if it is only in their minds. The challenge is transferring that knowledge, as well as the process of how they knew what data to combine, and then make it widely available to the enterprise. It presents an opportunity to build the quality of your people at the same time.

**Question:** Any best practices you would like to share concerning unstructured data proof of concepts (POCs) or Pilots that you will be undertaking?

**Answer:** It may sound trite, but we are going to go back to the basics: start small, involve our customers and iterate often.

**Question:** Your thoughts concerning recent M&A activity that may impact the unstructured data topic area in general?

**Answer:** If nothing else, it further validates our perception that integrating structured and unstructured data is a growing priority for the business community at large. I don't see any immediate impact on our tactics but it could impact our longer term strategies by allowing us to buy functionality versus building it sooner than I might have anticipated. I'll be watching closely to see how product lines are integrated.

*Executive Architect  
Major CPG Company*

## Competitive Assessment

The aggregated performance of surveyed companies determined whether they ranked as Best-in-Class, Industry Average or Laggard. In addition to having common performance levels, each class also shared characteristics in five key categories: (1) process (clearly defining data at its source ); (2) organization (corporate approach to BI); (3) knowledge management (strategies for data management, content management and enterprise search); (4) technology (selection and intelligent deployment of tools); and (5) performance measurement (ability of the organization to measure and use the results to improve performance). These characteristics (identified in the table below) serve as a guideline for best practices and correlate directly with Best-in-Class performance across the key metrics.

**Table 3: Competitive Framework**

	Laggards	Average	Best-in-Class
Process	Clearly defining data at its source		
	51%	45%	63%
Organization	Have a BI Center of Excellence to drive broader use		
	13%	13%	42%
Knowledge / Data Management	Have well defined data management strategy in place		
	23%	31%	54%
	Have well defined content / knowledge management strategy in place		
	21%	27%	53%
	Have well defined enterprise search strategy in place		
	14%	19%	28%

### Fast Facts

- √ The Best-in-Class focus resources on driving broader use of BI, and have well defined strategies around data management, content management and enterprise search.

	Laggards	Average	Best-in-Class
Technology	Technology currently in place:		
	<ul style="list-style-type: none"> <li>• 32% Enterprise Data Warehouse</li> <li>• 24% Data Cleansing</li> <li>• 14% Data Mining</li> <li>• 18% Federated Search</li> <li>• 14% Text Analytics (statistical)</li> <li>• 14% Text Analytics (linguistic)</li> <li>• 32% Content Mgmt System</li> <li>• 15% Real-Time Data Loading &amp; Accessibility</li> <li>• 12% Visualization Tools</li> </ul>	<ul style="list-style-type: none"> <li>• 32% Enterprise Data Warehouse</li> <li>• 33% Data Cleansing</li> <li>• 32% Data Mining</li> <li>• 16% Federated Search</li> <li>• 19% Text Analytics (statistical)</li> <li>• 17% Text Analytics (linguistic)</li> <li>• 40% Content Mgmt System</li> <li>• 26% Real-Time Data Loading &amp; Accessibility</li> <li>• 28% Visualization Tools</li> </ul>	<ul style="list-style-type: none"> <li>• 45% Enterprise Data Warehouse</li> <li>• 60% Data Cleansing</li> <li>• 45% Data Mining</li> <li>• 24% Federated Search</li> <li>• 34% Text Analytics (statistical)</li> <li>• 38% Text Analytics (linguistic)</li> <li>• 48% Content Mgmt System</li> <li>• 47% Real-Time Data Loading &amp; Accessibility</li> <li>• 54% Visualization Tools</li> </ul>
Performance	Performance is monitored through KPI's or other metrics (in place or current initiative)		
	<ul style="list-style-type: none"> <li>• 39%</li> </ul>	<ul style="list-style-type: none"> <li>• 62%</li> </ul>	<ul style="list-style-type: none"> <li>• 68%</li> </ul>

**Customer Perspective**

*“A lot of what passes for structured information is still just structured data. And structured data is not the same thing as information ... it often requires processing to become suitably refined so that BI tools can make sense of it. Maybe we're laggards ... but we're still focused on structured data.”*

*IT Manager  
Mid-tier industrial equipment company*

Source: Aberdeen Group, June 2007

**Process Capabilities and Technology Enablers**

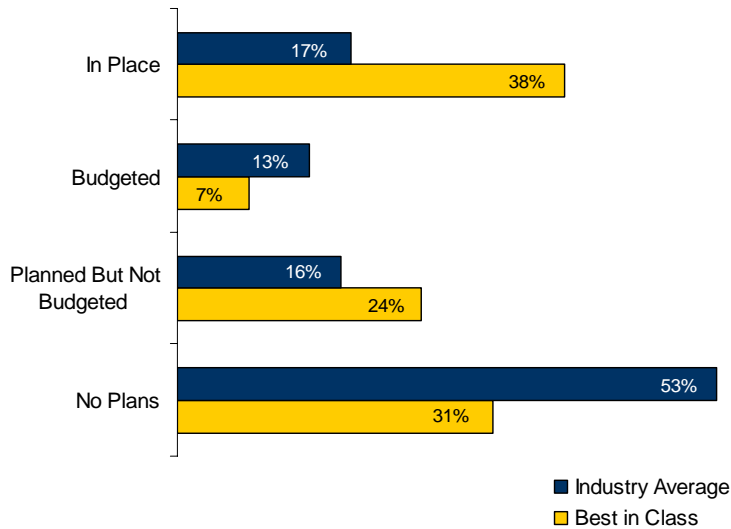
**Best-in-Class companies are 55% more likely to have text analytics in place than the Industry Average. Additionally, Best-in-Class companies are 33% more likely to have federated search technology in place than the Industry Average.**

This makes sense in the context of an organization’s desire to provide capabilities to elevate employee performance and information to manage risk.

As employees interact with customers, having access to relevant information from sources such as email, business documents, and notes fields from many business applications (CRM, claims systems, SFA, help desk, etc) can have an important impact on the outcome of the interaction.

Additionally, knowledge workers can identify potential problems and harmful events earlier in the process, or even be able to head them off before they happen.

**Figure 5A: Text Analytics using syntax (linguistic approach)**



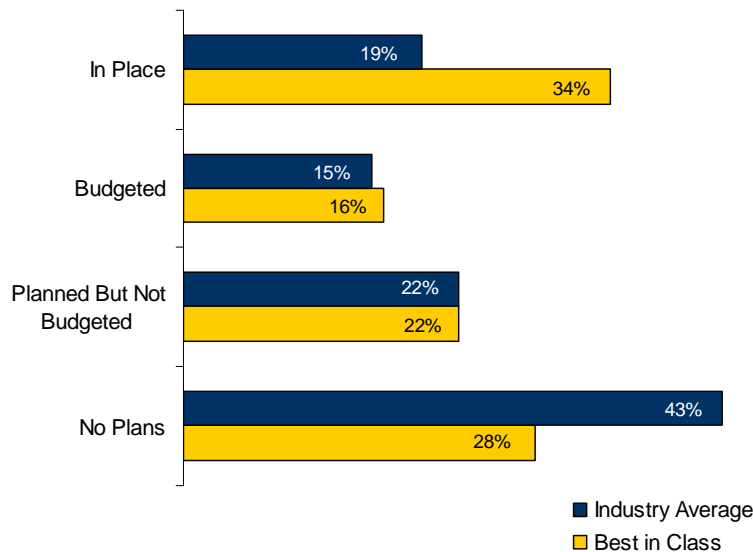
Source: Aberdeen Group, June 2007

**Customer Perspective**

“The notes to some claims may number in the hundreds, with records ranging from a few sentences to several paragraphs. We’re testing text analytics applications to determine if textual information can help us better understand and predict the ultimate settlement amount.”

Executive  
Large Insurance Company

**Figure 5B: Text Analytics using key word (statistical approach)**



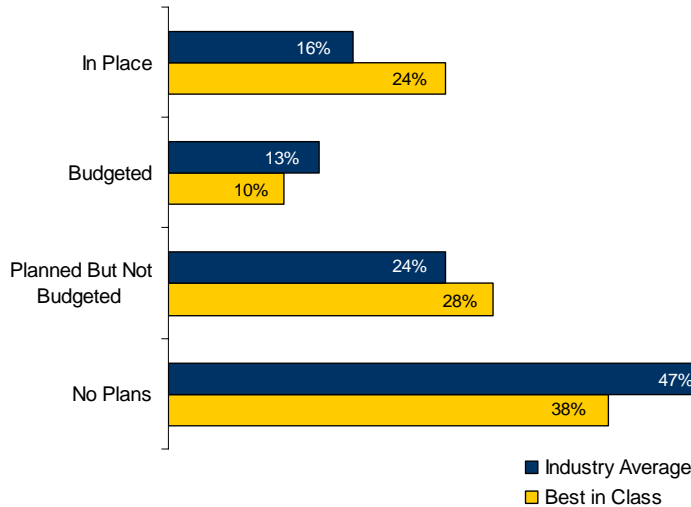
Source: Aberdeen Group, June 2007

**Customer Perspective**

“The government has accelerated the integration of BI and text search with Sarbanes-Oxley, etc. Compliance laws now require that reports be produced in an auditable process and preserved historically along with emails, spreadsheets, etc. Retrieval of every piece of information related to the 'Q2 Earnings Report' is now required.”

Compliance Manager  
Mid-tier financial organization

**Figure 6: Federated Search**



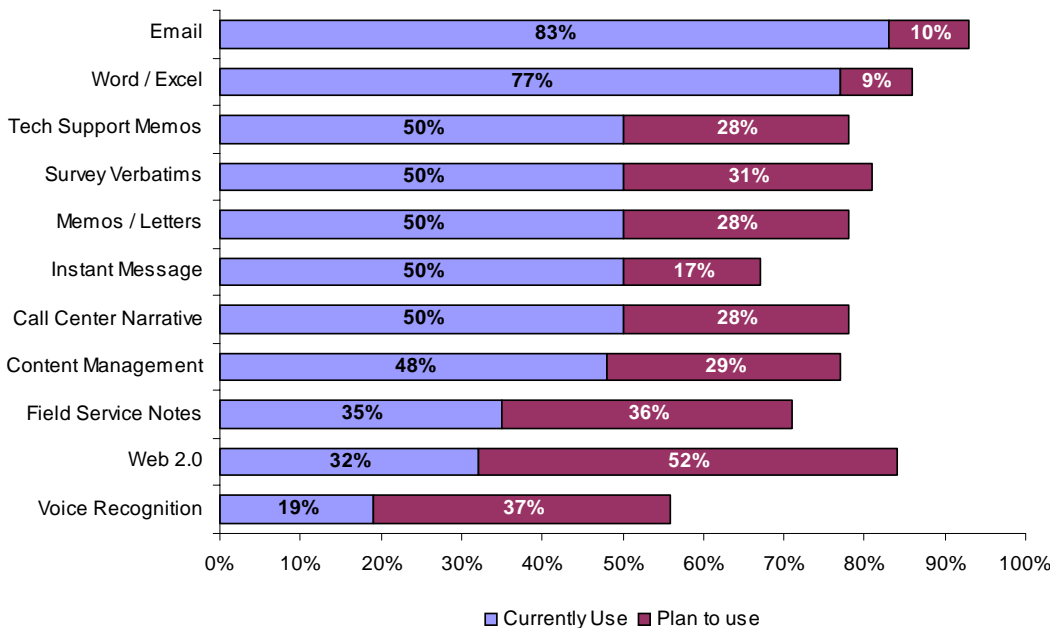
Source: Aberdeen Group, June 2007

**Customer Perspective**

“Using an Engineering Notebook to record ideas, inventions, experimentation records, observations and all work details is a vital part of our process. Careful attention to how we keep Engineering Notebooks can have a positive impact on the patent outcome of a pending discovery or invention. Our challenge is to be able to find all required information in those notebooks quickly and easily. We’re currently exploring federated search solutions to help address this challenge.”

**Figure 7: Best-in-Class - From which sources do you currently pull unstructured data?**

The BIC leverage several sources



Source: Aberdeen Group, June 2007

Manager  
Major Aerospace and Defense Company

**Customer Perspective**

“We’re leveraging customer comments to identify the ways products may fail by comparing the failure rates against historical baselines to recognize deviations. A prescribed variance may signal that a recall as well as an adjustment in current production is necessary.”

Product Manager  
Major Manufacturer

## Chapter Three: Required Actions

Whether a company is trying to improve its performance relative to unstructured data usage from “Laggard” to “Industry Average,” or “Industry Average” to “Best-in-Class,” the following actions will help spur the necessary performance improvements:

### Laggard Steps to Success

- **Have a well planned strategy in place for data management (currently 23% in place), content management (currently 21% in place) and enterprise search (currently 14% in place).** This may prove difficult for organizations that do not currently possess the IT skill sets necessary to define data at its source or within a warehouse or data mart. Companies with lean IT capabilities may want to consider outsourcing this activity to a 3<sup>rd</sup> party that has experience in both the technology and specific industry domain.
- **Form a BI Center of Excellence in order to promote greater use and awareness of BI tools and solutions through the enterprise (currently 14% in place).** This is comprised of a cross-functional team with a permanent, formal organizational structure. Further this initiative requires both IT and business management to collaborate on the definitions of business metrics, rules, and reporting/analysis methods to be used to measure and track performance and operational information. Additionally, this is a strategy for building business intelligence skill sets through a formalized training program within the organization. A BI Center of Excellence can be formed internally, or in many cases, can be created with the assistance of a 3<sup>rd</sup>-party consulting organization experienced in developing enterprise BI capabilities.
- **Align and link BI initiatives to your business strategy (currently 10%) and monitor key performance indicators (currently 20%).** This is an extension of the BI Center of Excellence, but should not be overlooked even if an organization does not formally create one. Many organizations have implemented BI capabilities to solve specific reporting or analytical needs. This is typically a response from IT to a user’s or department’s request for a solution for a particular pain point (i.e. the need to reduce a manual Excel process). While doing so can provide added benefit and efficiencies, the overall effect may not address larger pressures that are driving the business. Only when business management and IT collaborate together can the alignment of business strategy with BI initiatives occur. While eliminating manual Excel processes may solve a problem, but it should not be the driving force behind implementation of BI technologies.

### Fast Facts

- √ **Over three times as many Best-in-Class organizations** site an improvement of greater than 10% in customer retention when compared to the Industry Average.
- √ **56% of the Best-in-Class organizations** sited an improvement of greater than 10% in the ability to predict customer behavior **compared to 16% for the Industry Average.**
- √ **48% of the Best-in-Class organizations** sited an improvement of greater than 10% in the ability to cross sell and up-sell **compared to 14% for the Industry Average.**
- √ **39% of the Best-in-Class organizations** sited an improvement of greater than 10% in the speed-to-market **compared to 9% for the Industry Average.**

## Industry Average Steps to Success

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- **Establish a well-defined data management strategy (currently 40% compared to 54% in place for BIC).** Many organizations are still struggling with the management of structured data. Introducing unstructured data into the equation is not advisable until data management has been brought under control. This may require data warehousing or modeling skills exceeding those of the current IT organization. It is important to assess the nature of unstructured data in relation to structured data to understand the infrastructure and data quality/cleansing issues that will surface.
- **Form a BI Center of Excellence in order to promote greater use and awareness of BI tools and solutions through the enterprise (currently 14% in place).** In addition to the suggestion above, the evolution of a center of excellence is critical to its success. All operational areas of the business should be included in the process. Further, as business pressures change, so too must the make-up of this team.
- **Make the jump and undertake pilot projects or proof-of-concepts pertaining to unstructured data (currently 41% listing this as a strategic action).** Don't be late to the game, but at the same time, do not attempt to tackle everything at once (see recommendations for BIC below). Priority should be focused on resolving top pressures. Survey respondents listed improving employee performance and reducing risk from harmful events as their top two pressures. Focus on the integration of data that will resolve these needs first. If staff spend too much time searching for information across several applications, determine specifically what those applications are and focus early pilot projects those areas.

## Best-in-Class Steps to Success

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- **Be aggressive in exploring and representing more unstructured data to continue fine-tuning your “voice-of-the-customer.”** Email, documents, tech support notes, call center narrative, survey verbatim and instant messages all scored 50% or higher as BIC sources of unstructured information. These sources contain a wealth of customer information that can be gleaned for improved performance and avoidance of harmful events. Pay particular attention to Web 2.0 content (web logs, RSS feeds, and wiki pages) as sources of additional value and customer insight.
- **Be prepared for an unstructured data deluge. This means fine tuning data management, content management and search strategies in order to avoid information overload.** This may require adding IT resources and processing power. Several technology providers are addressing this requirement with new approaches to storage techniques and optimized indexing.

- **Continue taking the BI – Search – Text Analytics integration in steps. You don't want to spend resources on trying to boil the ocean.** Aberdeen research shows that “clearly defining data at its source” is the key strategic action to take in order to successfully integrate unstructured data for improved performance and risk reduction. If this step has not been completed, it is likely to be what is holding back growth of unstructured data integration with BI initiatives.

#### Aberdeen Insights – Summary

First used in 1989, the term “**Business Intelligence**” (**BI**) is going through a redesign. In fact, you could say the concept is growing into its originally implied potential. In the beginning, BI was used to define the technology tools for gathering, storing, analyzing and reporting data, but the phrase has always suggested much more. “Business” usually refers to profit-seeking commercial activity engaged in as a means of individual, partnership and/or corporate livelihood. “Intelligence” is the capacity and power for reasoning and understanding, as well as the strategic distribution of that knowledge for immediate action. The ability to open up information silos and transform unstructured data into relational data through enterprise search technology enables a 360° view of everything pertinent to the business issue at hand.

That means more than just building a data warehouse and dropping some slice-and-dice reporting tools on top of it. Business activity has always touched the entire enterprise community. It zigs and zags up and down and across organizational charts. Front-line employees may need a real-time view of their customer in order to make specific business decisions that support broader corporate goals and objectives. To remain competitive, that view now needs to include nontraditional data, or information (unstructured data), that doesn't currently fit nicely into the current BI format.

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## Appendix A: Research Methodology

Between May and June 2007, Aberdeen Group examined the convergence of unstructured and structured information worldwide, and the experiences and intentions of more than 200 enterprises in a diverse setting.

Respondents completed an online survey that included questions designed to determine the following:

- The top factors driving organizations to focus resources on unstructured data
- The top strategic actions organizations are taking to provide structure to unstructured data
- The business processes, technologies and competencies in place for leveraging the use of unstructured data
- The benefits, if any, that have been derived from bringing structure to unstructured data

Aberdeen supplemented this online survey effort with telephone interviews with select survey respondents, gathering additional information on unstructured information strategies, experiences, and results.

The study aimed to identify emerging best practices for unstructured data usage and provide a framework by which readers could assess their own capabilities.

Responding enterprises included the following:

- **Job title/function:** The research sample included respondents as follows: Senior Management (CEO, COO, CIO, COO, President) – 21%, Vice President – 10%, Director – 17%, Manager – 26%, Staff – 8%, Consultant – 13% and Other – 4%.
- **Industry:** The research sample included across industries. High tech was the largest segment with 25% of the sample. Finance / banking accounted for 16% of respondents, Aerospace / defense (13%), Computer equipment and peripherals (12%). Other sectors responding included Telecommunications, Industrial equipment manufacturing, Retail, Pharmaceutical and Travel.
- **Geography:** The majority of respondents (56%) were from North America. Remaining respondents were from Europe (22%), Asia-Pacific region (12%), South/Central America and Caribbean (7%) and Middle East/Africa (3%).
- **Company size:** About 16% of respondents were from large enterprises (annual revenues above US\$5 billion); 24% were from midsize enterprises (annual revenues between \$500 million and \$5 billion); and 60% of respondents were from small businesses (annual revenues of \$500 million or less).

Solution providers recognized as sponsors of this report were solicited after the fact and had no substantive influence on the direction of the “Convergence of Unstructured and Structured Information” Benchmark Report. Their sponsorship has made it possible for Aberdeen Group to make these findings available to readers at no charge.

**Table 4: PACE Framework**

PACE Key
<p>Aberdeen applies a methodology to benchmark research that evaluates the business pressures, actions, capabilities, and enablers (PACE) that indicate corporate behavior in specific business processes. These terms are defined as follows:</p> <p><b>Pressures</b> — external forces that impact an organization's market position, competitiveness, or business operations (e.g., economic, political and regulatory, technology, changing customer preferences, competitive)</p> <p><b>Actions</b> — the strategic approaches that an organization takes in response to industry pressures (e.g., align the corporate business model to leverage industry opportunities, such as product/service strategy, target markets, financial strategy, go-to-market, and sales strategy)</p> <p><b>Capabilities</b> — the business process competencies required to execute corporate strategy (e.g., skilled people, brand, market positioning, viable products/services, ecosystem partners, financing)</p> <p><b>Enablers</b> — the key functionality of technology solutions required to support the organization's enabling business practices (e.g., development platform, applications, network connectivity, user interface, training and support, partner interfaces, data cleansing, and management)</p>

Source: Aberdeen Group, June 2007

**Table 5: Maturity Framework**

Maturity Framework Key
<p>The Aberdeen Maturity Framework defines enterprises as falling into one of the following three levels of practices and performance:</p> <p><b>Best-in-Class (20%)</b> — Unstructured data practices that are the best currently being employed and significantly superior to the industry norm, and result in the top industry performance.</p> <p><b>Industry norm (50%)</b> — Unstructured data practices that represent the average or norm, and result in average industry performance.</p> <p><b>Laggards (30%)</b> — Unstructured data practices that are significantly behind the average of the industry, and result in below average performance</p> <p>In the following categories:</p> <p><b>Process</b> — What is the scope of process standardization? What is the efficiency and effectiveness of this process?</p>

### Maturity Framework Key

**Organization** — How is your company currently organized to manage and optimize this particular process?

**Knowledge** — What visibility do you have into key data and intelligence required to manage this process?

**Technology** — What level of automation have you used to support this process? How is this automation integrated and aligned?

**Performance** — What do you measure? How frequently? What's your actual performance?

Source: Aberdeen Group, June 2007

### Table 6: Relationship between PACE and Competitive Framework

#### PACE and Competitive Framework How They Interact

Aberdeen research indicates that companies that identify the most impactful pressures and take the most transformational and effective actions are most likely to achieve superior performance. The level of competitive performance that a company achieves is strongly determined by the PACE choices that they make and how well they execute.

Source: Aberdeen Group, June 2007

## Appendix B:

### Related and Upcoming Aberdeen Research

Related and upcoming Aberdeen research that forms a companion to this report includes:

- *Using the Voice of the Customer to create actionable Business Intelligence*; August 2007
- *Using Business Intelligence to Compete in the Free Market Economy*; October 2007
- *Using Business Intelligence to Overcome Information Overload*; December 2007
- [The 2007 Aberdeen Report](#), May 2007

Information on these and any other Aberdeen publications can be found at [www.Aberdeen.com](http://www.Aberdeen.com).

#### Authors:

Alan See, SVP, Business Intelligence; ([Alan.See@Aberdeen.com](mailto:Alan.See@Aberdeen.com))

David Hatch, Research Director, Business Intelligence ([david.hatch@aberdeen.com](mailto:david.hatch@aberdeen.com))

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